

A radio for use in microwave datalink applications in which a common local oscillator is used for both a final radio frequency (RF) up-converter stage and an initial RF down converter stage. The frequency of the common local oscillator corresponds to an integer multiple of a local oscillator needed for an earlier up-converter or later down converter stage. The circuit can be used to provide a radio frequency carrier in a 30 GHz band using Coaxial Resonator Oscillators (CRO's) that lend themselves to a planar microstrip circuit implementation.